No noise hydraulic pumps
Products presentation
Settima Meccanica designs and manufactures hydraulic screw pumps and high pressure helical rotors pumps. Our specialization is the production of no-noise, low-vibration pumps. Settima pumps are fit for use in every hydraulic application and in many kinds of systems. They are positive displacement rotary pumps. Moving parts are kept to a minimum. There is only a rolling action between the drive screw and the idler ones, without oil encapsulation and trapping. The rolling action eliminates noise and vibrations.
The SMT pump can manage high viscosity fluids and is profitably used in a wide range of applications, like in windmill and in any oil circulation activity and industrial applications up to 100 bar. A model for USA market (SMAT) is available.

The SMT16B pump has the widest range of applications, including cooling, filtration, mineral and synthetic oil plants, and industrial applications up to 40 bar. A model for USA market (SMAT16B) is available.

The SMT8B pump is mainly utilized in compact cooling and filtrations plants and industrial applications up to 15 bar. A model for USA market (SMAT8B) is available.

The SMTU pump is designed for the USA market only and it’s used in lift and elevators applications up to 80 bar.

The SFO pump is designed for lubrication and circulation of diesel oil engines, hydro turbines, and other marine applications up to 40 bar.

The FOTP pumps are tandem units (2 fluids, main + spare) that can handle any fuel oil. They are especially suited for marine applications up to 80 bar.

The SM pump has been produced since 1978. These pumps are used in lift and elevators applications up to 80 bar and with VF motors in energy saving systems. A model for USA market (SMU) is available.

The SMOI pumps are manufactured according to API 676 3rd edition. They are used in oil & gas, power generation and marine applications for boiler ignition / feeding and fuel transfer up to 60 bar.

The SMTU pump is designed for the USA market only and it’s used in lift and elevators applications up to 1.160 PSI.

Did you know? Settima screw pumps are positive displacement pumps designed with axial flow. Inside of the pump there are only three moving parts. The main screw is the only driven part and transmits the motion to the satellite screws. The satellite screws play also the role of creating pressure sealing areas. Settima takes great care in ensuring that all its screw pumps keep the noise emission to a minimum level, and are manufactured with the usual high-quality and high-precision standard peculiar to all of its production.
SMT
SMAT (for USA market)

- **Fluid Types**: mineral oils, synthetic fluid or emulsions, bunker oils, furnace oils, ecologic fluids, fuel oils (HFO, MDO, LFO, MGO)
- **Viscosity**: from 0,2 to 100.000 cSt
- **Outlet Pressure**: up to 100 bar
- **Inlet Pressure**: from -0,7 bar to 3 bar
- **Flows**: from 4 to 1.220 L/min
- **Shaft Speed**: from 500 to 3.600 rpm
- **Acoustic Emissions**: from 52 to 68 dB (A) at 2.950 rpm
- **Temperature Range**: from -50° C to +300° C

This pump is especially suited for the following applications:

- Cooling
- Filtration
- Industrial
- Lube Services
- Marine
- Oil & Gas
- Power Generation
- Power Hydraulics
- Tool Machines
- Windmill

**Did you know?** Settima SMT is one of the most versatile products from Settima range of three-screw pumps. The SMT pump is able to manage high-pressures, and therefore it can be utilized for an unrivalled (except for its low-pressure counterpart, the SMT16B) wide range of high-stress applications in very demanding fields, like high-pressure tool machines or marine, without compromising the reliability and the long life-span of the pump itself.
SMT16B
SMAT16B (for USA market)

- **Fluid Types:** mineral oils, synthetic fluid or emulsions, bunker oils, furnace oils, ecologic fluids, fuel oils (HFO, MDO, LFO)
- **Viscosity:** from 10 to 10,000 cSt
- **Outlet Pressure:** up to 40 bar
- **Inlet Pressure:** from -0.7 bar to 3 bar
- **Flows:** from 4 to 5,500 L/min (GR125-GR180)
- **Shaft Speed:** from 500 to 3,600 rpm
- **Acoustic Emissions:** from 52 to 68 dB (A) at 2,950 rpm
- **Temperature Range:** from -50° C to +300° C

This pump is especially suited for the following applications:

- Cooling
- Filtration
- Industrial
- Lube Services
- Marine
- Petrochemical Industry
- Power Hydraulics

Did you know? Settima SMT16B is one of the most versatile products from Settima range of three-screw pumps. The SMT16B is designed precisely to manage the medium-pressures typical of a wide range of applications, like lube services, industrial or power hydraulics, while remaining extremely competitive on the market from the final price perspective.
Did you know? Settima SMT8B is a pump designed for low pressure. Characterized by having one of the most compact design and size on the market and being particularly dependable and low-priced, the SMT8B is especially suited for low-pressure applications, like cooler equipment and oil filtration.

This pump is especially suited for the following applications:

- Cooling
- Industrial
- Filtration
- Lube Services
- Mobile
- Power Generation
- Windmills

**SMT8B**

SMAT8B (for USA market)

- **Fluid Types:** mineral oils, synthetic oils
- **Viscosity:** from 10 to 15,000 cSt
- **Outlet Pressure:** from 0 to 15 bar
- **Inlet Pressure:** from -0.5 bar to 1.5 bar
- **Flows:** from 15 to 80 L/min at 1,450 rpm
- **Shaft Speed:** from 500 to 1,750 rpm
- **Acoustic Emissions:** from 55 to 63 dB (A) at 1,750 rpm
- **Temperature Range:** from -20°C to +150°C

**Products**
SMAPI (API676)

- **Fluid Types:** fuel oils (HFO, MDO, LFO, MGO), bunker oils, furnace oils, synthetic fluid or emulsions, mineral oils, ecologic fluids
- **Viscosity:** from 2 to 10,000 cSt
- **Outlet Pressure:** up to 80 bar
- **Inlet Pressure:** from -0.7 bar to 1.5 bar
- **Flows:** from 4 to 1,800 L/min (from 1,800 to 3,200 overbusted)
- **Shaft Speed:** from 500 to 3,600 rpm
- **Acoustic Emissions:** from 52 to 68 dB (A) at 2,950 rpm
- **Temperature Range:** from -20°C to +180°C

This pump is especially suited for the following applications:

- Industrial
- Lube Services
- Marine (Boiler Ignition/Feeding)
- Oil & Gas
- Power Generation

*Did you know? Settima SMAPI API676 pumps were utilized for diesel oil transfer during to only voyage of the FSRU Toscana, the colossal floating gas storage/production facility offshore Livorno. All the previous pumps were unable to manage the extreme stress of fuel injection and power generation onboard, and they failed. Coincidentally, Settima (meaning ‘seventh’ in Italian language) was the seventh company appointed for the job, and the first one to succeed!*
SFO (fully compatible with IMO ACE pumps)

- **Fluid Types**: mineral oils, synthetic fluid or emulsions, bunker oils, furnace oils, ecologic fluids, fuel oils (HFO, MDO, LFO, MGO)
- **Viscosity**: from 0.2 cSt
- **Outlet Pressure**: up to 40 bar
- **Inlet Pressure**: from -0.7 bar to 1.5 bar
- **Flows**: from 12 to 75 L/min at 1.450 rpm
- **Shaft Speed**: from 500 to 3.600 rpm
- **Acoustic Emissions**: from 50 to 58 dB (A) at 2.950 rpm
- **Temperature Range**: from -20°C to +200°C

This pump is especially suited for the following applications:

- Industrial
- Lube Services
- Power Generation
- Tool Machines
- Marine (Boiler Ignition / Feeding Applications)

Did you know? Settima SFO has been designed with the precise purpose of being compatible with most installation specifics on the marine market. Settima managed to build the SFO with an eye on the final price of the product, lower than most of its competitors, and with the usual high quality and high reliability standard for all Settima products, to bring together quality and cost-efficiency over a competitive market.
**FOTP**

- **Fluid Types:** fuels, heavy fuels (HFO, MDO, MGO, DMA, DMB, DMC, DMZ), marine fuels, residual fuels, DMX fuel (ISO 8217 compliant)
- **Viscosity:** from 0.2 cSt
- **Outlet Pressure:** up to 80 bar
- **Inlet Pressure:** from -0.7 bar to 8 bar
- **Flows:** from 8 to 30 L/min at 3,000 rpm
- **Shaft Speed:** from 500 to 3,600 rpm
- **Acoustic Emissions:** from 55 to 58 dB (A) at 2,750 rpm
- **Temperature Range:** from -20° C to +200° C

This pump is especially suited for the following applications:
- Marine (Boiler Ignition/Feeding Applications)
- Oil & Gas
- Power Generation

Did you know? Settima FOTP, thanks to its reliability and to the fact it can be paired with the Seal-Less Magnetic Coupling, thus ensuring a clean and safe workspace, has been adopted by one of the largest marine boiler manufacturer in the world, to be used on its installations!
SM
SMU (for USA market)

- **Fluid Types**: mineral oils, synthetic oils
- **Viscosity**: from 10 to 2,000 cSt
- **Outlet Pressure**: up to 80 bar
- **Inlet Pressure**: from -0.7 bar to 3 bar
- **Flows**: from 8 to 1,200 L/min at 2,950 rpm
- **Shaft Speed**: from 500 to 3,600 rpm
- **Acoustic Emissions**: from 58 to 77 dB (A)
- **Temperature Range**: from -20°C to 100°C

This pump is especially suited for the following applications:

- Disabled Lifts
- Freight Elevators
- Home Lifts
- Industrial
- Parking Systems
- Platform Lifts
- Submersible Pumps

**Did you know?** Settima SM is the oldest pump designed by Settima on the market since 1978. As a statement of its sound and reliable design, the SM pump has changed little over its almost 40 years of service, except obviously for the many technical innovations adopted and the use of new, more advanced materials. In 2013 Settima received a request for a new SM pump to replace the old one, which just broke up. The original SM pump was installed in 1982!
SMTU (for USA market)

- **Fluid Types**: mineral oils, synthetic oils
- **Viscosity**: from 46 to 9,200 SSU
- **Outlet Pressure**: up to 1.160 PSI
- **Inlet Pressure**: from -10 PSI to 40 PSI
- **Flows**: from 2,5 to 317 gpm at 1.750 rpm
- **Shaft Speed**: up to 3.600 rpm
- **Acoustic Emissions**: from 58 to 77 dB (A)
- **Temperature Range**: up to 230° F

This pump is especially suited for the following applications:

- Disabled Lifts
- Freight Elevators
- Home Lifts
- Industrial
- Lube Services
- Parking Systems
- Platform Lifts

**Did you know?** *Settima SMTU* has been specifically designed for the USA market, and any market based on United States customary units or English units. Based on the tried and tested design of *Settima SMT*, the SMTU, when installed with the appropriate pulleys systems, can reach very high tensions and manage considerable loads.
CONTINUUM® NO-NOISE product range overview:

For high-pressure, no-noise fluid power operations

The CONTINUUM® no noise helical rotor pump has been developed by Settima in 2003. Its innovative concept is patented in many countries. The CONTINUUM® pump soon became a point of reference for no-noise, low-pulsations high pressure applications, up to 275 bar in continuous operation and with a maximum peak of 300 bar. The CONTINUUM® pump is able to operate for a multitude of applications, spacing from industrial to mobile, to environmental industry, and in all applications where low noise emissions are mandatory for a safe environment.

For low-pressure, no-noise fluid transfer operations

The 2VHL CONTINUUM® no noise helical rotor pump has followed the step of its predecessor, the CONTINUUM® pump, in providing the most silent and the lowest pulsating low pressure pump on the international market. Especially designed for use in extreme environments, the 2VHL CONTINUUM® is complementary of the CONTINUUM® pump, being used for windmill plants and industrial applications up to 25 bar in continuous operation and with a maximum peak of 40 bar, where an extremely durable and reliable pump is of the utmost importance.

Did you know? Settima CONTINUUM® pumps range is the flagship of Settima ability of research and innovation. Bringing the helical form into the rotors of gear pumps, Settima was able to provide incomparable performance and silent operation. CONTINUUM® is able to provide a no noise service, and as such it can be used in environments in which silence is of fundamental importance. First of its kind, and unique worldwide due to its efficiency, reliability, no noise / no ripple characteristics, it brought Settima to the top amongst manufacturers of silent components establishing a new high standard that all of the others struggle to reach, without success.
**Contiuum®**

**The Power of Silence**

- **Fluid Types:** mineral oils, synthetic oils, ecologic fluids, emulsions
- **Viscosity:** from 5 to 800 cSt
- **Outlet Pressure:** up to 300 bar
- **Inlet Pressure:** from 0.8 bar to 6 bar
- **Flows:** from 3 to 330 L/min at 1.500 rpm
- **Shaft Speed:** from 100 to 6.500 rpm
- **Acoustic Emissions:** from 52 to 63 dB (A) at 2.950 rpm
- **Temperature Range:** from -15°C to 100°C

This pump is especially suited for the following applications:

- Parking Systems
- Energy Saving Systems
- Marine (Movable Equipment Applications)
- Material Handling
- Tool Machines
- Mobile
- Presses
- Lift
- Forklifts

**Did you know?** Settima CONTINUUM pumps have been installed on the hi-tech gondola railway on the «Ponte della Costituzione» in Venice, better known worldwide as the «Calatrava’s Bridge». The engineers working on the structure needed a comfortable and reliable mean to let disabled tourists and citizens have access on the bridge, and Settima CONTINUUM were chosen as the best no-noise pumps on the market!

**Silence saves money**
Did you know? Settima CONTINUUM ® pumps can be combined in multiple configuration systems, to be used in closed loop circuits. This can be useful in applications like heavy-duty industrial presses, to drastically heighten the flow, or in mobile applications, where the double-, triple or quadruple-system is of critical importance for space- and cost-efficiency.

This triple-pump system is especially suited for the following applications:

- Agricultural
- Industrial
- Marine
- Mobile
- Presses
- Tool Machines

CONTINUUM ® pumps are suitable for multiple setups, whereby the drive shaft of the first pump is extended to a second, third or even a fourth CONTINUUM ® pump. Each pump is connected to another by means of coupling. Each pump has its own suction port and can manage fluids from different tanks. The technical specifications of a single pump apply also to multiple setups (for more info, see the catalogue on www.settima.it). The maximum speed is determined by the highest pump speed rate in use. In case of multiple setup configurations, it is recommended to use the largest displacement for the first pump. The front pump may be equipped with different types of flange and shaft.
2VHL Continuum®
Go silently in extreme environments

- **Fluid Types**: mineral oils, synthetic oils, emulsions, heavy oils
- **Viscosity**: up to 100,000 cSt
- **Outlet Pressure**: up to 25 bar (peak 40)
- **Inlet Pressure**: from 0.8 bar to 3 bar
- **Flows**: from 40 to 230 L/min at 1,500 rpm
- **Shaft Speed**: from 150 to 3,600 rpm
- **Acoustic Emissions**: from 52 to 63 dB (A) at 2,950 rpm
- **Temperature Range**: from -50°C to 150°C

This pump is especially suited for the following applications:

- Cooling
- Filtration
- Industrial
- Lube Services
- Windmill

**Did you know?** Settima 2VHL CONTINUUM® is one of the most durable pumps on the market. With its body made of cast iron, and its helical rotors manufactured with high-strength hardened steel, the 2VHL CONTINUUM® can easily manage a fluid viscosity of 100,000 cSt in the most extreme conditions, without shortening its lifespan. The 2VHL CONTINUUM® has become the pump of choice for difficult installations, like inside windmills on the open sea.

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*Silence saves money*
Other products overview

**Flowmeters**

The Settima Flowmeter is especially designed for the metering of viscous fluids. The unit works volumetrically according to the principle of screw transmitters, highly accurate and independent of viscosity. The medium passes a defined admission bore to get into the flow chamber and causes the revolution of the two screws mounted here. The revolutions are detected by a magnetically biased Hall sensor outside the flow chamber. Additional magnets in the flow chamber are not required. The flowmeter can operate up to a viscosity of 40,000 cSt.

**Seal-less Magnetic Coupling**

A hermetically sealed magnetic coupling is available (as option) for all pump models to replace standard seals. It is a permanent magnetic synchronous coupling able to transmit torque through magnetic forces between the internal and external rotor. Applying a magnetic coupling, the drive and the driven sides are hermetically separated. In case of critical media the magnetic coupling is a reliable seal and prevents any serious leaking. The magnetic coupling therefore is used to ensure no media leaking or if pumps are used in dangerous environments such as hazardous areas.

Did you know? Settima OTHER PRODUCTS are designed to complement the Settima pumps work on the field, always according to the high standard of precision and safety trademark of Settima. The Flowmeters are an important and extremely accurate tool of measurement, ideal in all the occasions where the flows level are to be kept under control. The Seal-Less Magnetic Coupling are a tool for safety on the workplace, designed to be mounted on all Settima products. They are able to prevent any fluid leakage, and for this reason they are particularly suited to be used in hazardous areas.
FLOWMETERS

- **Working Pressure**: up to 350 bar
- **Displacement**: from 26 cc to 458 cc
- **Flows**: up to 2,500 L/min
- **Temperature Range**: from -50°C to +300°C
- **Fluid Types**: fuel oils (HFO, MDO, LFO, DMX), furnace oils, bunker oils, synthetic fluid or emulsions, mineral oils, ecologic fluids
- **Materials Available**: aluminium, cast iron, stainless steel

The *Settima Flowmeter* is an extremely precise instrument to accurately assess the flows of oils and fuels. It is installed on several pump test bench, where the need of a correct measure of flow is of paramount importance. Because of the volumetric functioning principle, the device is almost completely independent of viscosity. It can also operate and measure with both forward and reverse flow. The *Settima Flowmeter* is an excellent tool for cost-sensitive applications.

Did you know? *Settima FLOWMETERS* can be safely used even with multiphase pumps, handling gas and fluids up to 40,000 cSt, without losing accuracy or shortening its life-span.
Did you know? Settima SEAL-LESS MAGNETIC COUPLINGS PUMPS have been chosen by one of the world’s leader in plastic injection molding machines as the safety measure of choice. Settima MAGNETIC COUPLINGS PUMPS are installed over the PIM machines used to produce one of the most loved toys for children all over the world, the LEGO® blocks. Settima scores another point in ensuring safer conditions at work and home, and a cleaner world! (LEGO® is a registered trademark of LEGO Group, and it is reported here for information purposes only)

The Seal-Less Magnetic Coupling has been used for a wide range of applications where the eventuality of a leakage, however minimal it could be, is to avoid at any cost, for health or safety reasons: this product has been designed to be used in the medical field, on a computed axial tomography (CAT) machine, and installed in several areas (for example, in marine and oil & gas applications) classified by the ATEX Certification as requiring flameproof and explosion proof safety measures.

SEAL-LESS MAGNETIC COUPLING

- **Working temperature:** up to 300° C on request
- **Inlet Pressure:** 16 bar standard, higher on request
- **Working RPM:** up to 3,600
- **Compatible Products:** all Settima pumps
- **Compatible Fluids:** all standard fluids for Settima pumps
Settima full complement of products:

- **SMT** – high-pressure industrial, lube and tool machines
- **SMT16B** – cooling, filtration and lube oil
- **SMT8B** – compact cooling and filtration
- **SFO** – shipyards diesel oil handling
- **SMAPI (API676)** – wide range of marine and industrial applications
- **FOTP** – high-reliability boiler ignition/feeding marine application
- **SMTU** – USA lifts and freight elevators
- **SM** – lifts and freight elevators
- **CONTINUUM®** – high-pressure, no-noise fluid power applications
- **2VHL CONTINUUM®** – low-pressure no-noise lube oil services
- **FLOWMETERS** – high-pressure, high-precision flow measurement
- **MAGNETIC COUPLING** – seal-less option for no medium leakage

Engineering and certification are a resource for our customers. If some certification is not available today, it could be available soon: ask Settima and we will answer.